WHAT IS CLAIMED IS:

1. A method for the detection and synchronization of a signal in a frequency-hopping system, comprising the following steps:

for each frequency F(1)...F(M), selecting the K samples corresponding to the greatest values of the signal, and their positions;

combining, for a given position, the M greatest values selected from among K on each frequency having said position, and keeping the greatest combined value and the corresponding position; and

comparing the greatest combined value with a threshold value, and if the greatest value is greater than this threshold value, then declaring the detection of the signal.

2. The method according to claim 1, further comprising the following steps:

limiting the amplitude level of the received signal S;

correlating the received signal with a reference number R'

for each said frequency F(1)...F(M), storing the k greatest values of the signal and their position corrected by a known delay T(1)...T(M);

for a given temporal position, summing the K greatest selected values having this position and preserving the greatest sum; and

comparing this greatest sum with a threshold value, and if it is greater than this threshold value, then declaring the detection of the signal.

3. The method according to claim 2, wherein said limiting step comprises the following steps:

using a sliding window to select a signal section (zone);

estimating the energy of the signal on this section; and

bringing about a variation in the gain applied to the signal so that, ultimately, its short-term energy remains in a given fixed time interval for the majority of the time.

4. The method according to claim 3, wherein a delay line or a circular memory is used as a sliding window.

5. The method according to claim 1, wherein for an m-ranking frequency to be watched, the amplitude/position pairs of the K greatest values that have appeared being known;

if a new correlated value is higher than a minimum value previously chosen;

the former minimum value is replaced by a new correlated value;

a search is made among the K pairs for the pair whose amplitude is the lowest; and

parameters of the lowest pair are stored.

6. The method according to claim 5, wherein the correlated new value is compared with the different amplitudes stored in a rising order of amplitude, and as soon as this new value is higher than one of the amplitudes, the new correlated value as well as its corrected position are stored.

7. The method according to claim 1, wherein said combination step comprises the following steps:

initializing a « MAX correlation » value at 0;

for each frequency F(m) and for all the positions stored for this frequency, adding the amplitudes corresponding to the same position to this frequency and in the following frequencies;

if the sum obtained is greater than the « MAX correlation » value, identifying the « MAX correlation » value with the sum and the position of the maximum « MAX position » at the position examined;

selecting the final value as being the value of "MAX correlation" accompanied by "pos MAX" in order to determine the detection of the signal.

8. A device for the detection and synchronization of a signal in a frequency-hopping system, comprising:

several storage devices 6i0, where i is the index of the frequency concerned, the devices being adapted to memorizing the K greatest values for a given frequency as well as their position;

a combination device enabling the position-by-position combining of the K greatest values for all the frequency values and the keeping of the greatest value; and

a comparator receiving, firstly, the value of the threshold to be complied with and, secondly, the greatest value.

9. The device according to claim 8, wherein the combination device is a summator.

10. The device according to claim 8, comprising a soft limiter adapted to controlling the level of the signal and a correlator that also receives a reference signal R.

11. The device according to claim 5, wherein the parameters are in an amplitude and corrected position.

12. The device according to claim 2, wherein for an m-ranking frequency to be watched, the amplitude/position pairs of the K greatest values that have appeared being known;

if a new correlated value is higher than a minimum value previously chosen;

the former minimum value is replaced by a new correlated value;

a search is made among the K pairs for the pair whose amplitude is the lowest; and

parameters of the lowest pair are stored.

13. The device according to claim 3, wherein for an m-ranking frequency to be watched, the amplitude/position pairs of the K greatest values that have appeared being known;

if a new correlated value is higher than a minimum value previously chosen;

the former minimum value is replaced by a new correlated value;

a search is made among the K pairs for the pair whose amplitude is the lowest; and

parameters of the lowest pair are stored.

14. The device according to claim 4, wherein for an m-ranking frequency to be watched, the amplitude/position pairs of the K greatest values that have appeared being known;

if a new correlated value is higher than a minimum value previously chosen;

the former minimum value is replaced by a new correlated value;

a search is made among the K pairs for the pair whose amplitude is the lowest; and

parameters of the lowest pair are stored.

15. The device according to claim 9, comprising a soft limiter adapted to controlling the level of the signal and a correlator that also receives a reference signal R.